

**An Automated Land Analysis System (ALAS) for
Applications at a Range of Spatial Scales: Watershed to
Global**

Norman L Miller (Climate Systems Modeling Group, Lawrence
Livermore National Laboratory, University of California, L256 P.O.
Box 808, Livermore, CA 94550; (510) 422-3244; norm@llnl.gov)

Recent advances in Digital Elevation Model (DEM) data availability and topographic analysis have enabled us to develop an Automated Land Analysis System (ALAS). ALAS is based on a series of codes which determine topographic and hydrologic characteristics at each pixel, watershed, and each large scale cell. The input requirements are a DEM from any location in the world, it's resolution, and array size. A Motif accessed script reads in these inputs and generates a series of data sets which further describe the watershed properties (e.g. flow directions, hydrologic characteristic probability density functions, etc.). Postscript files and associated arrays indicating the fine river networks and each subcatchment, as well as numerous other properties, are produced and catalogued.

We are currently developing neural network and pattern recognition techniques for identifying sequential relationships between watersheds and specific river systems. We are also determining spatial and homogeneous sensitivities with regard to the input topographic data as well as soil and vegetation characteristics. We intend to make this system available on the World Wide Web with a built-in user's manual.

Various aspects of ALAS and it's applications using TOPMODEL to simulate flood frequency analysis at scales will be highlighted during this presentation.

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2. Norman L. Miller
#010225975

3. (a) Norman L. Miller
LLNL
P.O. 808 L-256
Livermore, CA 94551
(b) Tel: 510-422-3244
(c) fax: 510-422-6388
(d) norm@llnl.gov

4. H

5. (a) H11 Multi-Scale
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